**Practice: 600 - Terrace**

**Scenario: #1 - Gradient Terrace**

**Scenario Description:**

An earthen embankment with channel is constructed across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field. A gradient terrace having 5:1 upstream and 5:1 downstream slopes in a field with slopes from 2% to 8% is constructed. Water is safely conducted to a grassed waterway or underground outlet. Erosion is reduced by slowing, collecting, and redistributing runoff to a stable outlet. Excessive sediment is trapped in the terrace reducing sediment in surface waters.

Associated practices: Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).

**Before Situation:**

A field with slopes 2% to 8% and silt loam soils has excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

**After Situation:**

A system of gradient terraces measuring 750 in length, 2.5 feet average height, and 5:1 front and back slopes is installed with spacing designed to intercept the flow of water and shorten slope length to reduce erosion to acceptable levels. The terrace is installed with a dozer, scraper, or road grader is used. The installed terrace is typically farmed.

**Scenario Feature Measure:** Length of Terrace

**Scenario Unit:** Foot

**Scenario Typical Size:** 750

**Scenario Cost:** $3,288.27 **Scenario Cost/Unit:** $4.38

**Cost Details (by category):**

| Component Name | ID | Component Description | Unit | Price ($/unit) | Quantity | Cost |
|---|---|---|---|---|---|---|
| ***Equipment/Installation*** | | | | | | |
| Dozer, 140 HP | 927 | Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included. | Hour | $126.14 | 18 | $2,270.52 |
| ***Labor*** | | | | | | |
| Equipment Operators, Heavy | 233 | Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons. | Hour | $37.38 | 18 | $672.84 |
| Supervisor or Manager | 234 | Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc. | Hour | $42.74 | 2 | $85.48 |
| ***Mobilization*** | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | $259.43 | 1 | $259.43 |

**Practice: 600 - Terrace**

**Scenario: #2 - Storage Terrace**

**Scenario Description:**

An earthen embankment with channel is constructed across the field slope as part of a system to shorten slope lengths, and reduce sheet, rill, and gully erosion in a cropped field. A storage terrace with side slopes of 8:1 or greater in a field with slopes from 2% to 8% is constructed. Water is safely stored before being safely conducted to a grassed waterway or underground outlet. Erosion is reduced by slowing, collecting, and redistributing runoff to a stable outlet. Excessive sediment is trapped in the terrace reducing sediment in surface waters.

Associated practices: Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).

**Before Situation:**

A field with slopes 2% to 8% and silt loam soils has excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

**After Situation:**

A system of flat channel (level) terraces with approximately 8:1 front and back slopes, 2.5 feet average height, and 750 feet in length is installed with spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. The terrace is installed with a dozer, scraper, or road grader is used. The installed terrace is typically farmed. The riser and outlet are not included and are covered through associated practices.

**Scenario Feature Measure:** Length of Terrace

**Scenario Unit:** Foot

**Scenario Typical Size:** 750

**Scenario Cost:** $4,312.13 **Scenario Cost/Unit:** $5.75

**Cost Details (by category):**

| Component Name | ID | Component Description | Unit | Price ($/unit) | Quantity | Cost |
|---|---|---|---|---|---|---|
| ***Equipment/Installation*** | | | | | | |
| Dozer, 140 HP | 927 | Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included. | Hour | $126.14 | 24 | $3,027.36 |
| ***Labor*** | | | | | | |
| Equipment Operators, Heavy | 233 | Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons. | Hour | $37.38 | 24 | $897.12 |
| Supervisor or Manager | 234 | Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc. | Hour | $42.74 | 3 | $128.22 |
| ***Mobilization*** | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | $259.43 | 1 | $259.43 |

**Practice: 600 - Terrace**

**Scenario: #3 - Rebuild, Gradient Terrace**

## Scenario Description:

A previously constructed earthen embankment with a channel across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field is beyond the practice life span, no longer functioning as designed, and needs to be reconstructed. A gradient terrace having 5:1 upstream and 5:1 downstream slopes in a field with slopes from 2% to 8% is constructed. Water is safely conducted to a grassed waterway or underground outlet. Excessive sediment is trapped in the terrace reducing sediment in surface waters.

Associated practice: Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).

## Before Situation:

A field with slopes 2% to 8% and silt loam soils has excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

## After Situation:

A system of gradient terraces measuring 750 feet in length, 2.5 feet average height, and 5:1 front and back slopes is re-installed with spacing designed to intercept the flow of water and shorten slope length to reduce erosion to acceptable levels. The terrace is installed with a dozer, scraper, or road grader is used. The installed terrace is typically farmed.

**Scenario Feature Measure:** Length of Terrace

**Scenario Unit:** Foot

**Scenario Typical Size:** 750

**Scenario Cost:** $2,349.89 **Scenario Cost/Unit:** $3.13

## Cost Details (by category):

| Component Name | ID | Component Description | Unit | Price ($/unit) | Quantity | Cost |
|---|---|---|---|---|---|---|
| ***Equipment/Installation*** | | | | | | |
| Dozer, 140 HP | 927 | Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included. | Hour | $126.14 | 12 | $1,513.68 |
| ***Labor*** | | | | | | |
| Equipment Operators, Heavy | 233 | Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons. | Hour | $37.38 | 12 | $448.56 |
| Supervisor or Manager | 234 | Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc. | Hour | $42.74 | 3 | $128.22 |
| ***Mobilization*** | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | $259.43 | 1 | $259.43 |

## Practice: 600 - Terrace

## Scenario: #4 - Rebuild, Storage Terrace

### Scenario Description:

A previously constructed earthen embankment with a channel across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field is beyond the practice life span, no longer functioning as designed, and needs to be reconstructed. A storage terrace with side slopes of 8:1 or greater in a field with slopes from 2% to 8% is constructed. Water is safely stored before being safely conducted to a grassed waterway or underground outlet. Erosion is reduced by slowing, collecting, and redistributing runoff to a stable outlet. Excessive sediment is trapped in the terrace reducing sediment in surface waters.

Associated practices: Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).

### Before Situation:

A field with slopes 2% to 8% and silt loam soils has excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

### After Situation:

A system of flat channel (level) terraces measuring 750 feet in length, 2.5 feet average height, and 8:1 front and back slopes is re-installed with spacing designed to intercept the flow of water and shorten slope length to reduce erosion to acceptable levels. The terrace is installed with a dozer, scraper, or road grader is used. The installed terrace is typically farmed. The riser and outlet are not included and are covered through associated practices.

**Scenario Feature Measure:** Length of terrace

**Scenario Unit:** Foot

**Scenario Typical Size:** 750

**Scenario Cost:** $3,331.01 **Scenario Cost/Unit:** $4.44

### Cost Details (by category):

| Component Name | ID | Component Description | Unit | Price ($/unit) | Quantity | Cost |
|---|---|---|---|---|---|---|
| ***Equipment/Installation*** | | | | | | |
| Dozer, 140 HP | 927 | Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included. | Hour | $126.14 | 18 | $2,270.52 |
| ***Labor*** | | | | | | |
| Equipment Operators, Heavy | 233 | Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons. | Hour | $37.38 | 18 | $672.84 |
| Supervisor or Manager | 234 | Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc. | Hour | $42.74 | 3 | $128.22 |
| ***Mobilization*** | | | | | | |
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | $259.43 | 1 | $259.43 |